

CLAIMS

What is claimed is:

1. An integrated circuit package comprising:  
a molded plastic body;  
5 a plurality of plastic posts each extending integrally from said body;  
a plurality of electrically separate metal terminals coating a sidewall of at least one of said posts;  
a plurality of electrically conductive paths each electrically coupled to at least one of said metal terminals; and  
10 an integrated circuit including a plurality of bond pads, said integrated circuit mounted on said body and electrically coupled to at least some of said paths through said bond pads.
2. The integrated circuit package of Claim 1, wherein a total number of said posts is less than a total number of said bond pads.
- 15 3. The integrated circuit package of Claim 1, wherein said posts are arranged in a checkerboard pattern.
4. The integrated circuit package of Claim 1, wherein a shape of at least some of said posts comprises a cylinder.
5. The integrated circuit package of Claim 1, wherein a shape of at least  
20 some of said posts is substantially cylindrical and includes at least one projection.
6. The integrated circuit package of Claim 5, wherein an exterior surface of said projection is coated by a respective one of said metal terminals.
7. The integrated circuit package of Claim 1, wherein a shape of at least some of said posts comprises hexagonal.
- 25 8. The integrated circuit package of Claim 1, further comprising a plurality of bond wires each electrically coupled between said bond pads and at least some of said paths.

9. The integrated circuit package of Claim 1, further comprising an encapsulant material covering at least a part of said integrated circuit.

10. The integrated circuit package of Claim 1, wherein said integrated circuit comprises a flip chip.

5 11. A stack of integrated circuit packages, the stack comprising:

a first integrated circuit package including a first integrated circuit mounted on a first molded plastic body of a first substrate, said first substrate including a plurality of first plastic posts extending integrally from said first molded plastic body and a plurality of electrically separate first metal terminals coating a sidewall of at least one of said first plastic posts; and

10 a second integrated circuit package including a second integrated circuit mounted on a second molded plastic body of a second substrate, said second substrate including a plurality of second plastic posts extending integrally from said second molded plastic body and a plurality of electrically separate second metal terminals coating a sidewall of at least one of said second plastic posts,

15 wherein said first and second integrated circuit packages are stacked, and at least some of said first plastic posts are engaged with at least some of said second plastic posts so that said first metal terminals are electrically coupled to respective ones of said second metal terminals.

20 12. The stack of Claim 11, wherein said first integrated circuit and said second integrated circuit face a same direction.

13. The stack of Claim 11, wherein said first integrated circuit and said second integrated circuit face each other.

25 14. The stack of Claim 11, wherein a first subset of said first plastic posts of said first integrated circuit package are arranged in a first checkerboard pattern on a first side of said first molded plastic body, and a second subset of said first plastic posts are arranged in a complementary second checkerboard pattern on a second side of said first molded plastic body.

30 15. The stack of Claim 14, wherein said first integrated circuit package further includes a plurality of vias each extending through said first molded plastic body, each

said via electrically coupling one of said first metal terminals from said first subset of first plastic posts to a respective one of said first metal terminals from said second subset of first plastic posts.

16. An electronic assembly comprising:

5 a first integrated circuit package including a first integrated circuit mounted on a first molded plastic body of a first substrate, said first substrate including a plurality of first plastic posts extending integrally from said first molded plastic body and a plurality of electrically separate first metal terminals coating a sidewall of at least one of said first plastic posts; and

10 a molded plastic substrate including a plurality of metal-coated posts extending integrally from said plastic substrate, wherein said metal-coated posts are engaged with said first plastic posts and are electrically coupled to said first metal terminals.

17. The electronic assembly of Claim 16, wherein said molded plastic  
15 substrate comprises a part of a second integrated circuit package, said second integrated circuit package including a second integrated circuit mounted on said molded plastic substrate and electrically coupled to said metal-coated posts.

18. The electronic assembly of Claim 16, wherein said molded plastic  
20 substrate further comprises a plurality of input/output terminals adapted to be electrically coupled to circuitry external to said molded plastic substrate.

19. A substrate for mounting one or more integrated circuit packages, said substrate comprising:

a molded plastic sheet;

a plurality of plastic posts each extending integrally from said sheet;

25 a plurality of electrically separate metal terminals coating a sidewall of at least one of said posts;

a plurality of electrically conductive input/output terminals at a periphery of said sheet, said input/output terminals adapted to electrically couple said substrate to circuitry external to said substrate; and

a plurality of electrically conductive traces each electrically coupled at first ends to a respective one of said metal terminals, wherein at least some of said traces are electrically coupled at opposite second ends to respective ones of said electrically conductive input/output terminals.

5           20.     The substrate of Claim 19, wherein said electrically conductive input/output terminals comprise a plurality of metal lands or balls on, or a plurality of metal pins extending from, a lower side of said sheet.

21.     The substrate of Claim 19, wherein said posts extend from a first side of said sheet and from an opposite second side of said sheet.

10          22.     The substrate of Claim 21, further including one or more vias extending through said sheet and electrically coupled between respective metal terminals on respective posts on said first and second sides of said sheet.

23.     The substrate of Claim 21, wherein said electrically conductive input/output terminals comprise a second plurality of conductive traces on a connector  
15     extending integrally from said sheet.

0906841-092701